

L13 ANSWER 1 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:110140 CAPLUS
DN 134:151116
TI Electrodeposition of cobalt-chromium alloy film on aluminum-alloy surface
for **magnetic recording**
IN Lin, Jing-chie; Her, Jiann-gow; Jiang, Shyh-biau; Chang, Chiang-nan; Your,
Jyh-rung
PA National Science Council, Taiwan
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428694000T
CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 77

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6187461	B1	20010213	US 1998-78846	19980514
PRAI	TW 1997-86106478	A	19970515		
AB	The Al-alloy surface (esp. on hard disk) is pretreated by chem. polishing and phosphating or zincating, and is electroplated with the magnetic Co-Cr alloy film contg. 4-12% Cr when phosphating, or 0.8-1.6% Cr when zincating. The chem. polishing of Al-alloy surface is typically applied for 1 min at 100.degree. in acidic bath contg. 9.6M H ₃ PO ₄ , 2.46M AcOH, and 0.78M HNO ₃ , followed by phosphating or zincating. The resulting Co-Cr alloy films are suitable for magnetic recording , and can be modified to have the required magnetic coercive force and remanence. The Co alloys contg. 1.25 or 8.29% Cr are suitable for electrodeposition on the pretreated AA 6061 Al-alloy disks.				
ST	electrodeposition cobalt chromium alloy magnetic recording ; aluminum alloy disk coating magnetic recording				
IT	Magnetic recording materials (electroplated; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				
IT	Remanence (magnetic, of alloy electroplate; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				
IT	Coercive force (magnetic) (of alloy electroplate; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				
IT	Coating process (phosphating, primer; aluminum-alloy disk phosphated and coated with Co-Cr alloy for magnetic recording)				
IT	Coating process (zincating, primer; aluminum-alloy disk zincated and coated with Co-Cr alloy for magnetic recording)				
IT	Aluminum alloy, base RL: PEP (Physical, engineering or chemical process); PROC (Process) (electroplating of; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				
IT	12616-75-0, AA 6061 RL: PEP (Physical, engineering or chemical process); PROC (Process) (electroplating of; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				
IT	37207-22-0 37230-22-1 39397-97-2 68328-07-4 322764-26-1 322764-27-2 RL: PEP (Physical, engineering or chemical process); PROC (Process) (electroplating with, for magnetic recording ; electrodeposition of Co-Cr alloy film on aluminum-alloy disk for magnetic recording)				

IT 64-19-7, Acetic acid, uses 7664-38-2, Phosphoric acid, uses 7697-37-2,
Nitric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(etching bath contg., for Al-alloy surface; electrodeposition of Co-Cr
alloy film on aluminum-alloy disk for **magnetic**
recording)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Chen; US 4388367 1983 CAPLUS
- (2) Chisholm, C; Plating and Surface Finishing 1985, P58 CAPLUS
- (3) Czako-Nagy, M; Electrochimica Acta 1994, V39(6), P801
- (4) Harini, D; J Electrochem Soc 1994, V141(7), P1773
- (5) Iwasaki; US 4210946 1980
- (6) Kawai; US 4109287 1978 CAPLUS
- (7) King, R; Surface Treatment and Finishing of Aluminum 1988, P39
- (8) Manly; US 4075672 1978
- (9) Matsuoka, M; Planting and Surface Finishing 1987, P56 CAPLUS

L13 ANSWER 2 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:687916 CAPLUS

DN 133:246419

TI Magnetic data-storage sputtering targets and methods for preparation

IN Bartholomeusz, Michael; Tsai, Michael

PA Heraeus, Inc., USA

SO U.S., 35 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM H01F001-14

NCL 148312000

CC 77-8 (Magnetic Phenomena)

Section cross-reference(s): 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6123783	A	200000926	US 1997-946360	19971007
	US 6432223	B1	20020813	US 2000-546015	20000410
PRAI	US 1997-38031P	P	19970206		
	US 1997-946360	A3	19971007		
AB	A method for making a magnetic data storage target includes warm-rolling a magnetic alloy sheet at a temp. of $100\text{--}1200\text{.degree. F.}$, optimally followed by annealing. The method results in increased pass-through-flux (PTF) and improved performance in magnetron sputtering applications.				
ST	magnetic recording sputtering target rolling annealing; alloy magnetic recording sputtering target rolling annealing; metal magnetic recording sputtering target rolling annealing				
IT	Magnetic recording materials Magnetron sputtering Sputtering targets (magnetic data-storage sputtering targets and methods for prepn.)				
IT	Annealing Cold rolling (magnetic data-storage sputtering targets and methods for prepn. using)				
IT	Alloys, processes Metals, processes RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (magnetic; magnetic data-storage sputtering targets and methods for prepn.)				
IT	Rolling (metals) (warm; magnetic data-storage sputtering targets and methods for prepn. using)				
IT	Cobalt alloy, base				

Nickel alloy, base

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(magnetic data-storage sputtering targets and methods for prepn.)

IT 7440-02-0, Nickel, processes 7440-48-4, Cobalt, processes 159455-25-1, Chromium 10, cobalt 86, tantalum 4 (atomic) 228254-68-0, Chromium 12, cobalt 74, nickel 10, tantalum 4 (atomic) 256455-58-0, Chromium 15, cobalt 75, platinum 6, tantalum 4 (atomic) 293741-83-0, Chromium 16, cobalt 73, platinum 11 (atomic) 293741-84-1, Boron 6, chromium 20, cobalt 64, platinum 10 (atomic) 293741-85-2, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8 (atomic) 293741-86-3, Chromium 0-40, cobalt 0-100, nickel 0-100, platinum 0-30, tantalum 0-8 (atomic) 293741-87-4, Boron 0-30, chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8 (atomic) 293741-88-5, Chromium 0-40, cobalt 0-100, nickel 0-100, silicon 0-30, tantalum 0-8 (atomic) 293741-89-6, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, zirconium 0-30 (atomic) 293741-90-9, Chromium 0-40, cobalt 0-100, iron 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-91-0, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, tungsten 0-30 (atomic) 293741-92-1, Chromium 0-40, cobalt 0-100, molybdenum 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-93-2, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, vanadium 0-30 (atomic) 293741-94-3, Chromium 0-40, cobalt 0-100, nickel 0-100, niobium 0-30, tantalum 0-8 (atomic) 293741-95-4, Chromium 0-40, cobalt 0-100, hafnium 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-96-5, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, titanium 0-30 (atomic) 293741-97-6, Chromium 0-40, cobalt 0-100, nickel 0-100, samarium 0-30, tantalum 0-8 (atomic)

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(magnetic data-storage sputtering targets and methods for prepn.)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; JP 1100219 1989
- (2) Chan, L; Journal of Magnetism and Magnetic Materials 1989, V79, P95 CAPLUS
- (3) Inoue; US 5500057 1996 CAPLUS
- (4) Taniguchi; US 5334267 1994 CAPLUS
- (5) Weigert, M; Materials Science and Engineering 1991, VA139, P359 CAPLUS

L13 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:360491 CAPLUS

DN 133:113862

TI Saturation magnetization and uniaxial magnetocrystalline anisotropy for Co-based binary and Co-Ge-Cr ternary alloys

AU Takahashi, M.; Shoji, H.; Kadokawa, S.; Djayaprawira, D. D.; Komori, Y.; Domon, H.

CS School of Engineering, Department of Electronic Engineering, Tohoku University, Sendai, 980-8579, Japan

SO Applied Physics Letters (2000), 76(23), 3457-3459

CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics

DT Journal

LA English

CC 77-1 (Magnetic Phenomena)

Section cross-reference(s): 56

AB In order to develop a magnetic material for high-d. **magnetic recording** media which overcomes the thermal agitation effect, the magnetic properties, such as satn. magnetization and magnetic anisotropy, were evaluated for Co-M (M = Pt, Pd, Ru, Rh, Os, Cr, Ge, Mo, Mn, Re, and Si) binary alloys. Ge addn. was found to be effective in maintaining the value of the magnetic anisotropy field of Co. Furthermore, a ternary magnetic alloy of Co-Ge-Cr (85 at. % Co, 10 at. % Ge, 5 at. % Cr) was

found to have the following magnetic properties: Kugrain .gtoreq. 3 .times. 106 erg/cm, Hkgrain .simeq. 10 kOe, and 4.pi.Ms/Hkgrain < 1.0. This magnetic material is a very promising candidate for use in high-d. **magnetic recording media.**

ST magnetic anisotropy satn magnetization chromium cobalt germanium alloy; chromium cobalt germanium **magnetic recording** material; binary cobalt alloy magnetization anisotropy

IT Concentration (condition)
(alloying elements; effects on satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT Uniaxial magnetic anisotropy
(and satn. magnetization for Co-based binary and Co-Ge-Cr ternary alloys)

IT Magnetization
(and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT Potential barrier
(anisotropic; effects on satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT **Magnetic recording** materials
(high-d.; satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT Paramagnetism
(in satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT Magnetic properties
(satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and Co-Ge-Cr ternary alloys)

IT 284037-74-7, Chromium 5, cobalt 85, germanium 10 (atomic)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(Co-Ge-Cr ternary alloys; satn. magnetization and uniaxial magnetocryst. anisotropy for Co-based binary and)

IT 11101-12-5 12781-83-8, Cobalt 90, chromium 10 (atomic)
54259-34-6, Cobalt 95, chromium 5 (atomic) 58464-79-2, Cobalt 90, iridium 10 (atomic) 72781-38-5, Cobalt 90, rhenium 10 (atomic) 85424-54-0 97036-70-9, Cobalt 91, platinum 9 (atomic) 132728-17-7, Cobalt 95, ruthenium 5 (atomic) 133071-95-1, Cobalt 85, platinum 15 (atomic) 136150-95-3, Cobalt 95, iridium 5 (atomic) 147099-05-6, Cobalt 90, ruthenium 10 (atomic) 147856-91-5, Cobalt 85, rhenium 15 (atomic) 160619-62-5, Cobalt 80, ruthenium 20 (atomic) 160619-65-8, Cobalt 80, rhodium 20 (atomic) 165807-27-2, Cobalt 80, rhenium 20 (atomic) 177219-55-5, Cobalt 85, germanium 15 (atomic) 178922-84-4, Cobalt 95, platinum 5 (atomic) 253278-92-1, Cobalt 95, rhenium 5 (atomic) 253278-93-2, Cobalt 85, iridium 15 (atomic) 284037-53-2, Cobalt 97.5, platinum 2.5 (atomic) 284037-54-3, Cobalt 92.5, platinum 7.5 (atomic) 284037-55-4, Cobalt 97.5, rhodium 2.5 (atomic) 284037-56-5, Cobalt 95, osmium 5 (atomic) 284037-57-6, Cobalt 97.5, osmium 2.5 (atomic) 284037-60-1, Cobalt 95, rhodium 5 (atomic) 284037-62-3, Cobalt 90, rhodium 10 (atomic) 284037-64-5, Cobalt 85, rhodium 15 (atomic) 284037-66-7, Cobalt 92.5, osmium 7.5 (atomic) 284037-68-9, Cobalt 85, osmium 15 (atomic) 284037-70-3, Cobalt 85, ruthenium 15 (atomic) 284037-71-4, Cobalt 94, germanium 6 (atomic) 284037-72-5, Cobalt 95, silicon 5 (atomic) 284037-73-6, Cobalt 87.5, germanium 12.5 (atomic)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(satn. magnetization and uniaxial magnetocryst. anisotropy for)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Asti, G; Phys Rev Lett 1972, V28, P1548
- (2) Bolzoni, F; IEEE Trans Magn 1984, VMAG-20, P1625 CAPLUS
- (3) Bolzoni, F; J Magn Magn Mater 1983, V31-34, P845 CAPLUS

(4) Takahashi, M; IEEE Trans Magn 1992, V28, P3285 CAPLUS
 (5) Takahashi, M; IEEE Trans Magn 1997, V33, P2938 CAPLUS
 (6) Takahashi, M; J Magn Magn Mater 1999, V193, P44 CAPLUS

L13 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1998:774105 CAPLUS
 DN 130:32138
 TI Method of manufacturing a thin film **magnetic recording** medium having low MrT value and high coercivity
 IN Ranjan, Rajiv Yadav; Lu, Miaogen
 PA Komag Incorporated, USA
 SO U.S., 7 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM G11B005-66
 NCL 428065300
 CC 77-8 (Magnetic Phenomena)
 Section cross-reference(s): 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5840394	A	19981124	US 1997-829995	19970402
PRAI	US 1997-829995		19970402		

AB A method for manufg. a magnetic disk includes the step of providing 1st and 2nd magnetic layers on a substrate. The 1st magnetic layer comprises Co. The portion of the 1st magnetic layer comprising Cr, Ta, Ti, W, Zr or Hf, if any, is <7.5 at.% of the 1st magnetic layer (and preferably <5 at.%). The 2nd magnetic layer also comprises Co, and >7.5 at.% of the 2nd layer is Cr, Ta, Ti, W, Zr or Hf (and preferably >10 at.%). The 1st and 2nd magnetic layers can be made very thin without having a great redn. in coercivity.

ST cobalt alloy **magnetic recording** disk

IT Coercive force (magnetic)

Magnetic disks

Magnetic recording materials

(method of manufg. thin film **magnetic recording** medium having low MrT value and high coercivity)

IT 7440-48-4, Cobalt, uses 11115-08-5 11122-59-1 12667-70-8
 53529-86-5 54259-40-4 69803-08-3 216436-19-0, Cobalt
 92.5-100, chromium 0-7.5 (atomic) 216436-20-3, Cobalt 92.5-100, tantalum
 0-7.5 (atomic) 216436-21-4, Cobalt 92.5-100, titanium 0-7.5 (atomic)
 216436-22-5, Cobalt 92.5-100, tungsten 0-7.5 (atomic) 216436-23-6,
 Cobalt 92.5-100, zirconium 0-7.5 (atomic) 216436-24-7, Cobalt 92.5-100,
 hafnium 0-7.5 (atomic)

RL: TEM (Technical or engineered material use); USES (Uses)

(method of manufg. thin film **magnetic recording** medium having low MrT value and high coercivity)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ishikawa; US 5605733 1997
- (2) Kitakami; US 5543221 1996
- (3) Lal; US 5580667 1996
- (4) Lee; US 5693426 1997 CAPLUS

L13 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:441977 CAPLUS

DN 129:103292

TI **Magnetic recording** medium and **magnetic recording** device

IN Kaitsu, Isatake; Okamoto, Iwao; Shinohara, Masayoshi

PA Fujitsu Ltd., Japan

SO U.S., 27 pp.

CODEN: USXXAM

DT Patent
LA English
IC ICM G11B005-64
NCL 428546000
CC 77-8 (Magnetic Phenomena)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5774783	A	19980630	US 1996-594762	19960131
	JP 08255342	A2	19961001	JP 1995-59012	19950317
	JP 09147342	A2	19970606	JP 1995-299785	19951117
PRAI	JP 1995-59012		19950317		
	JP 1995-160437		19950627		
	JP 1995-299785		19951117		

AB The present invention relates to a **magnetic recording** medium for use in an external memory device of an information processing app. etc., and an object thereof is to reduce noise, achieve high coercive force, and use the substance as a **magnetic recording** medium for detecting signals in a magnetoresistance head. In the **magnetic recording** medium comprising the **magnetic recording** layer including ferromagnetic grains and a nonmagnetic substance, the improvement in structure comprises that the ferromagnetic grains are formed to have resp. an av. grain diam. of 50 nm or less and not to be overlapped in the film thickness direction and to be isolated in the direction along a layer surface, and that a product of residual magnetization and a film thickness of the **magnetic recording** layer is less than or equal to 150 G.cndot..mu.m.

ST **magnetic recording** medium ferromagnetic grain

IT Ferromagnetic materials

(grain; **magnetic recording** medium contg.)

IT **Magnetic recording** materials

(**magnetic recording** medium)

IT Magnetic memory devices

(**magnetic recording** medium for)

IT **Magnetic recording** heads

(magnetoresistive; **magnetic recording** device including)

IT 1314-23-4, Zirconium oxide (ZrO₂), uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-44-0, Carbon, uses 7440-50-8, Copper, uses 7631-86-9, Silica, uses 12033-89-5, Silicon nitride, uses 25583-20-4, Titanium nitride (TiN) 37327-55-2, Chromium 12, cobalt 86, tantalum 2 (atomic)

RL: DEV (Device component use); USES (Uses)

(**magnetic recording** medium contg.)

IT 7439-89-6, Iron, uses 7440-48-4, Cobalt, uses 11122-59-1, Cobalt alloy, Co, Cr 11134-15-9, Cobalt alloy Co, Pt 11134-17-1, Cobalt 80, samarium 20 (atomic) 12781-83-8, Chromium 10, cobalt 90 (atomic) 39305-53-8, Cobalt 50, platinum 50 (atomic) 51669-04-6, Cobalt alloy Co, Sm 60088-05-3, Cobalt 89.5, samarium 10.5 (atomic) 71818-56-9, Chromium 0-10, cobalt 90-100 (atomic) 78544-29-3, Cobalt 80, platinum 20 (atomic) 103135-53-1 209532-49-0 209532-50-3 209532-51-4

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(**magnetic recording** medium contg.)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; JP 59142735 1984
- (2) Anon; JP 59220907 1984 CAPLUS
- (3) Anon; JP 5942642 1984
- (4) Anon; JP 60209918 1985
- (5) Anon; JP 62117143 1987
- (6) Anon; JP 63175220 1988
- (7) Anon; JP 1256017 1989
- (8) Anon; JP 2216609 1990

- (9) Anon; JP 4366417 1992
- (10) Anon; JP 554357 1993
- (11) Anon; JP 598141 1994
- (12) Anon; JP 6187628 1994
- (13) Anon; JP 76359 1995
- (14) Coffey; US 5476680 1995 CAPLUS
- (15) Hayakawa; US 5573863 1996
- (16) Howard; US 5062938 1991
- (17) Inomata; US 5585196 1996 CAPLUS
- (18) Weiss; US 4675240 1987 CAPLUS

L13 ANSWER 6 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:430003 CAPLUS

DN 129:103071

TI Method of manufacturing CoCrTa/CoCrTaPt bi-layer magnetic thin films

IN Zhang, Bing

PA Seagate Technology, Inc., USA

SO U.S., 10 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C23C014-34

NCL 204192200

CC 76-8 (Electric Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5772857	A	19980630	US 1996-608142	19960228
	US 5952097	A	19990914	US 1997-964259	19971104
PRAI	US 1996-608142		19960228		

AB Double layer, or bi-layer, magnetic films are deposited over a substrate with an underlayer. The bi-layer film is a film of two different magnetic layers which have different chem. compn., deposited with no spacer layer between the two layers. The lower magnetic layer should be of a low noise magnetic material, while the upper magnetic layer should be a high coercivity magnetic material. The bi-layer film exhibits a single response to **magnetic recording** and a joint coercivity different from the coercivity of either layer by itself. A preferred double layer media uses a CoCrTa layer deposited under a CoCrTaPt layer, with the CoCrTa layer comprising 30 to 70% of the total film thickness. The double layer film produces magnetic media with higher coercivity and lower media noise as compared to single layered films of either of the materials of the magnetic layers.

ST magnetic thin film manuf recording medium; cobalt chromium tantalum platinum magnetic bilayer

IT Magnetic films

(method of manufg. CoCrTa/CoCrTaPt bi-layer magnetic thin films)

IT **Magnetic recording** materials

(method of manufg. CoCrTa/CoCrTaPt bi-layer magnetic thin films for)

IT 81705-66-0 142295-96-3 146279-48-3, Chromium 10, cobalt 84, tantalum 6 (atomic) 153504-42-8, Chromium 14, cobalt 80, tantalum 4 (atomic) 159455-26-2, Chromium 16, cobalt 80, tantalum 4 (atomic) 209544-03-6 209544-04-7, Chromium 12, cobalt 76, platinum 10, tantalum 2 (atomic)

RL: TEM (Technical or engineered material use); USES (Uses)

(method of manufg. CoCrTa/CoCrTaPt bi-layer magnetic thin films for)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Fang; Data Storage Systems Center Review Presentations 1994
- (2) Furusawa; US 4950548 1990 CAPLUS
- (3) Ishikawa; US 5605733 1997
- (4) Kibe; US 4990362 1991 CAPLUS
- (5) Li-Lien, L; IEEE Transactions on Magnetics 1994, V30 (6)
- (6) Onodera; US 5607783 1997

(7) Shalin, D; IEEE Transactions on Magnetics 1994, V30(6)
 (8) Xiaoxia, T; IEEE Transactions on Magnetics 1994, V30(6)
 (9) Yamaguchi; US 5474830 1995 CAPLUS

L13 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:472200 CAPLUS
 DN 121:72200
 TI Vapor deposition material and production method thereof
 IN Oishi, Yukihiko; Yamamoto, Susumu; Murai, Teruyuki; Kawabe, Nozomu
 PA Sumitomo Electric Industries, Ltd., Japan
 SO PCT Int. Appl., 107 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C23C014-20
 CC 77-8 (Magnetic Phenomena)
 Section cross-reference(s): 56, 75
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9323586	A1	19931125	WO 1993-JP594	19930506
	W: US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 05311301	A2	19931122	JP 1992-146502	19920511
	JP 05311405	A2	19931122	JP 1992-146503	19920511
	JP 06240442	A2	19940830	JP 1992-146504	19920511
	JP 06108188	A2	19940419	JP 1992-286677	19920930
	JP 3228356	B2	20011112		
	JP 06145931	A2	19940527	JP 1992-328526	19921113
	JP 3018798	B2	20000313		
	JP 06287668	A2	19941011	JP 1993-100277	19930402
	JP 3103458	B2	20001030		
	JP 06299277	A2	19941025	JP 1993-107728	19930409
	JP 2903940	B2	19990614		
	JP 06306583	A2	19941101	JP 1993-113749	19930416
	EP 603407	A1	19940629	EP 1993-911971	19930506
	EP 603407	B1	19971119		
	R: CH, DE, ES, FR, GB, IT, LI				
	ES 2110094	T3	19980201	ES 1993-911971	19930506
	US 5441010	A	19950815	US 1994-178277	19940104
	US 6126760	A	20001003	US 1997-861764	19970522
PRAI	JP 1992-146502	A	19920511		
	JP 1992-146503	A	19920511		
	JP 1992-146504	A	19920511		
	JP 1992-286677	A	19920930		
	JP 1992-328526	A	19921113		
	JP 1993-100277	A	19930402		
	JP 1993-107728	A	19930409		
	JP 1993-113749	A	19930416		
	WO 1993-JP594	W	19930506		
	US 1994-178277	A3	19940104		
	US 1995-442660	B1	19950517		
AB	A vapor deposition material is provided for the prodn. of VTR tapes, vertical magnetic recording films, etc. The vapor deposition material is wire made of Co, a Co-(.ltoreq.30 wt.%)Ni alloy, or a Co-(.ltoreq.30 wt.%)Cr with unavoidable impurities, and may have a diam. 1.0-10 mm, a tensile strength 400-1,500 MPa and elongation and contraction of at least 5%, a predetd. cryst. structure, and a proportion of the fcc. 0.1 to 1 from x-ray diffraction intensity ratio. The material is heated to Tu .degree.C and then subjected to plastic working at a temp. between Td .degree.C and Tu + 200 .degree.C such that the redn. of area per pass is more than 10%, where Tu and Td are the transformation temps. during heating for a change from close-packed hexagonal to fcc. and that during cooling for a change from fcc. to close-packed hexagonal, resp. The wire				

material is made of the Co or the Co-Ni alloy, preferably contg. Mn, Cr, Mg, Zr, and/or Ca 0.01-0.1 wt.%, or the Co-Cr alloy preferably contg. Mn, Mg, Zr, and/or Ca 0.01-0.1 wt.%.

ST cobalt wire evapn source; nickel cobalt alloy evapn source; chromium cobalt alloy evapn source

IT Vapor deposition processes
(cobalt base metal wire sources for)

IT Drawing, forming
(prepn. by, of cobalt base metal wires for evapn. deposition sources)

IT Recording materials
(magnetic, cobalt base metal wire evapn. deposition sources for prepn. of)

IT 7440-48-4, Cobalt, uses 11109-70-9, Cobalt 80, nickel 20 11122-59-1, Cobalt base, chromium 12646-82-1, Cobalt 80, chromium 20 12755-73-6, Cobalt 90, nickel 10 12782-22-8, Cobalt 70, nickel 30 37207-22-0, Cobalt 90, chromium 10 37230-35-6, Cobalt 99, nickel 1 37327-47-2 39397-97-2 51881-96-0, Cobalt base, nickel 72464-30-3, Cobalt 85, nickel 15
RL: DEV (Device component use); USES (Uses)
(wires from, for evapn. deposition sources)

L13 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:572734 CAPLUS

DN 119:172734

TI **Magnetic recording media with cobalt-niobium alloy film**

IN Murata, Hideo; Nakajima, Motoe; Shinohara, Hajime

PA Hitachi Metals Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01F010-16

ICS G11B005-66

CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05101933	A2	19930423	JP 1991-283888	19911004
PRAI	JP 1991-283888		19911004		

AB The title media consist of a nonmagnetic support coated with a nonmagnetic undercoating film and a magnetic Co alloy film contg. 5.0-15.0 at.% Cr and 1.1 to 0.2 at.% V and/or Nb. The magnetic film has improved coercive force and less noise.

ST **recording magnetic film cobalt alloy**

IT Recording materials

(magnetic, chromium-cobalt-niobium-vanadium alloy film for)

IT 149921-13-1 149921-14-2 149921-15-3 149921-16-4 150136-60-0
150136-61-1

RL: USES (Uses)

(magnetic recording film, with improved coercive force, without noise)

IT 11145-10-1

RL: USES (Uses)

(support, for magnetic recording media, coated with cobalt alloy film)

IT 7440-47-3, Chromium, uses

RL: USES (Uses)

(undercoating, for magnetic recording media, coated with cobalt alloy film)

L13 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:16351 CAPLUS

DN 114:16351

TI Study of cobalt-chromium films for perpendicular **magnetic recording** using nuclear magnetic resonance
AU Yoshida, Kazuetsu; Kakibayashi, Hiroshi; Yasuoka, Hiroshi
CS Cent. Res. Lab., Hitachi Ltd., Kokubunji, 185, Japan
SO Journal of Applied Physics (1990), 68(2), 705-12
CODEN: JAPIAU; ISSN: 0021-8979
DT Journal
LA English
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56, 66
AB A 59Co NMR measurement and a TEM observation were utilized to investigate the compositional distribution of Co-Cr films with and without heat treatment. The spin-echo spectra of evapd. films are found to be entirely different from those of Co-Cr alloy powders. The spectra of films comprise a very complicated hyperfine field distribution and the resonant frequencies are much higher than those of powder samples, implying the existence of various kinds of segregation regions typical of a film. Chrysanthemum-like patterns, which disappear with heat treatment, are obsd. for chem. etched films. This disappearance is accompanied by the disappearance of the highest-frequency resonant line.
ST cobalt chromium film NMR **magnetic recording**; annealing
cobalt chromium film; segregation cobalt chromium film
IT Magnetic hyperfine field
(at cobalt-59 in chromium-cobalt films)
IT Magnetic induction and Magnetization
(of chromium-cobalt films)
IT Nuclear magnetic resonance
(of chromium-cobalt films, cobalt-59)
IT Etching
(of chromium-cobalt films, magnetic properties in relation to)
IT Recording materials
(magnetic, from chromium-cobalt films)
IT 129420-43-5
RL: PRP (Properties)
(Moessbauer effect of)
IT 7440-48-4, Cobalt, properties
RL: PRP (Properties)
(magnetic hyperfine field at, in chromium-cobalt films)
IT 12646-82-1, Chromium 21.6, cobalt 78.4 (atomic) 39397-97-2,
Chromium 5.6, cobalt 94.4 (atomic) 54059-49-3, Chromium 13.3, cobalt
86.7 (atomic) 100013-28-3 129420-41-3, Chromium 0.6, cobalt 99.4
(atomic) 129420-42-4, Chromium 1.9, cobalt 98.1 (atomic)
RL: PRP (Properties)
(magnetic properties of)
IT 54425-12-6
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(magnetization of)
L13 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1989:47316 CAPLUS
DN 110:47316
TI Correlation between environmental and electrochemical corrosion of thin film **magnetic recording** media
AU Novotny, V.; Staud, N.
CS Almaden Res. Cent., IBM Res. Div., San Jose, CA, 95120-6099, USA
SO Journal of the Electrochemical Society (1988), 135(12), 2931-8
CODEN: JESOAN; ISSN: 0013-4651
DT Journal
LA English
CC 72-6 (Electrochemistry)
Section cross-reference(s): 56, 77
AB Corrosion of thin film Co based **magnetic recording** media was studied by surface anal. and electrochem. techniques. Corrosion

currents of bare Co-Cr alloys are inversely proportional to the integral of Cr oxide concn. taken over the near-surface region of the film. For coated alloys, the corrosion process involves adsorption of H₂O by the porous overcoat, preferential Co dissoln. from the metal alloy, its migration through the overcoat and Co hydroxide and/or oxide formation on the overcoat surface. Co concns. appearing on overcoat surfaces after environmental exposures correlate well with corrosion currents.

ST magnetic alloy cobalt chromium; corrosion environmental electrochem alloy; coating cobalt dissoln corrosion
IT Recording materials
(chromium-cobalt alloy, environmental and electrochem. corrosion of)
IT Surface analysis
(of corrosion products of electrochem. and environmental corrosion of chromium-cobalt alloy)
IT 7440-44-0, Carbon, uses and miscellaneous
RL: USES (Uses)
(coating contg., on chromium-cobalt alloy, corrosion in relation to)
IT 7757-82-6, Disodium sulfate, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(corrosion of chromium-cobalt alloy in, carbon-contg. coating effect on)
IT 7440-48-4, Cobalt, reactions 11114-92-4 12781-83-8, Chromium 10, cobalt 90 (atomic) 52360-78-8, Chromium 20, cobalt 80 (atomic) 54259-34-6, Chromium 5, cobalt 95 (atomic) 85424-54-0, Chromium 14, cobalt 86 (atomic)
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, electrochem. and environmental, surface anal. in relation to)

L13 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:123164 CAPLUS

DN 108:123164

TI Perpendicular magnetic recording media

IN Kitagami, Osamu; Fujiwara, Hideo

PA Hitachi Maxell, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G11B005-66

ICS C22C019-07; G11B005-704; G11B005-706; H01F010-16

CC 77-8 (Magnetic Phenomena)

Section cross-reference(s): 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62208413	A2	19870912	JP 1986-50588	19860310
PRAI	JP 1986-50588		19860310		

AB The title material is characterized by formation of a Co-base alloy film (e.g., having a hexagonal closed-packed structure with the C-axis perpendicular to the film plane) contg. Cr <24 and Ge, C, B, Si, and/or Ti (e.g., with a portion as oxides) <20 wt.% directly on the substrate or on the foundation layer. Thus, Co-Cr-Ge films were deposited on polyimide films. Increase of coercive forces in the perpendicular direction was obsd. with Ge content <20 wt.%.

ST alloy perpendicular magnetic recording medium; cobalt chromium alloy addn metal; grain boundary pptn addn metal; germanium cobalt chromium alloy

IT Recording materials

(magnetic, perpendicular, from cobalt-chromium alloy, with addn. of metals for grain-boundary pptn)

IT 113363-57-8

RL: PRP (Properties)
(perpendicular magnetic recording media from films

of)

L13 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1987:26790 CAPLUS
DN 106:26790
TI **Magnetic recording** medium with protective film
IN Endo, Juro; Murakami, Shiro; Fujii, Shigeo; Oguma, Shigeru; Nakao, Masayuki
PA Hitachi Metals., Ltd., Japan
SO Ger. Offen., 18 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM G11B005-71
ICS G11B005-706; C09D005-23; B05D005-12
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3546325	A1	19860717	DE 1985-3546325	19851230
PRAI JP 1985-6592		19850117		

AB A **magnetic recording** medium comprises a disk-shaped substrate, a magnetic film on the surface of the substrate, and a protective film on the surface of the magnetic film. The protective film consists of 2 layers: a 1st layer (e.g., 10-30 nm thick) composed to .gtoreq.1 of Cr₂O₃, Si, and Ge; and a 2nd layer (e.g., 20-70 nm thick) composed of amorphous C. The substrate may be composed of Al or an Al alloy. The magnetic film may be prepnd. from a Co-Ni, Co-Ni-Pt, Co-Ni-P, Co-Cr, Co-Cr-Pt, Co-Ni-Cr, or Co-P alloy. A layer may be provided between the substrate and the magnetic film to improve the adhesion of the magnetic film to the substrate. A lubricant may be applied to the protective film.

ST protective film **magnetic recording** disk
IT Recording apparatus
IT (magnetic disks, with protective film)
IT Aluminum alloy, base
RL: PRP (Properties)
IT (substrate of, for **magnetic recording** disks with protective films)
IT 7440-44-0, uses and miscellaneous
RL: USES (Uses)
IT (amorphous, protective film with layer contg., for **magnetic recording** disks)
IT 11101-13-6 11109-71-0 11114-92-4 12618-71-2 12797-00-1, Cobalt, nickel, phosphorus 60596-33-0 85133-66-0, Cobalt 65-95, nickel 5-35 (atomic) 91033-96-4, Chromium, cobalt, platinum 106049-71-2, Cobalt 48-95, nickel 5-40, platinum 0-12 (atomic) 106049-72-3, Cobalt 48-95, nickel 5-40, phosphorus 0-12 (atomic) 106049-73-4, Chromium 5-20, cobalt 80-95 (atomic) 106049-74-5, Chromium 5-20, cobalt 70-94, platinum 1-10 (atomic) 106049-75-6, Chromium 3-15, cobalt 50-87, nickel 10-35 (atomic)
RL: PRP (Properties)
IT (magnetic film of, for **magnetic recording** disks with protective films)
IT 1308-38-9, uses and miscellaneous 7440-21-3, uses and miscellaneous 7440-56-4, uses and miscellaneous
RL: USES (Uses)
IT (protective film with layer contg., for **magnetic recording** disk)
IT 7782-42-5, uses and miscellaneous
RL: USES (Uses)
IT (protective film with layer contg., for **magnetic recording** disks)
IT 7429-90-5, uses and miscellaneous

RL: USES (Uses)
 (substrate of, for **magnetic recording** disks with
 protective films)
 IT 87833-38-3, Aluminum 93-100, magnesium 0-7
 RL: PRP (Properties)
 (substrate of, for **magnetic recording** disks with
 protective films)

L13 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:601872 CAPLUS

DN 105:201872

TI **Magnetic recording** medium

IN Shirahata, Ryuji; Yanai, Akio

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G11B005-85

ICS C23C014-30; C23C014-56

CC 77-8 (Magnetic Phenomena)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61094240	A2	19860513	JP 1984-216923	19841016
	US 4604293	A	19860805	US 1985-788177	19851016
PRAI	JP 1984-216922		19841016		
	JP 1984-216923		19841016		

AB The method for fabricating **magnetic recording** material involves electron-beam evapn. of magnetic material onto a moving tape substrate. The nonmagnetic substrate moves at a rate of v (m/min). The width of scanning of the evapn. source by the electron beam is w (m). The frequency of scanning is set f (Hz) to improve the tape properties. The method was used to fabricate Co-Ni alloy on polyethylene terephthalate.

ST electron evapn **magnetic recording** tape; cobalt nickel recording tape

IT Recording materials

(electron beam evapn. in deposition of)

IT 39338-53-9

RL: PRP (Properties)

(deposition of ferromagnetic, for recording)

IT 39397-97-2

RL: PRP (Properties)

(electron beam evapn. in deposition of)

L13 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:38427 CAPLUS

DN 102:38427

TI **Magnetic recording** medium

PA TDK Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC G11B005-70; C22C019-07; H01F010-16

CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59119535	A2	19840710	JP 1982-234814	19821225
PRAI	JP 1982-234814		19821225		

AB A corrosion-resistant **magnetic recording** medium consists of: (1) a magnetic layer contg. Co or an alloy of Co, Ni, Cr,

and/or O on a substrate; and (2) a Ni-P amorphous magnetic alloy thin film contg. P 12-20 wt.% on the magnetic layer.

ST cobalt **magnetic recording** medium; nickel phosphorus amorphous alloy recording

IT Coating materials
(anticorrosion, nickel-phosphorus glass alloys, for cobalt alloys for recordings)

IT Glass, nonoxide
RL: USES (Uses)
(nickel-phosphorus alloy, for passivation of cobalt alloys for recordings)

IT Recording materials
(magnetic, corrosion-resistant, with amorphous nickel-phosphorus alloy coatings)

IT 7440-48-4, uses and miscellaneous
RL: USES (Uses)
(magnetic recording from, nickel-phosphorus glass alloy for passivation of)

IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(magnetic recording support from)

IT 94075-90-8
RL: PRP (Properties)
(passivation coating of, from cobalt for recording materials)

IT 11109-68-5 11109-70-9 57656-18-5 **94075-91-9** 94075-92-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(passivation of, by nickel-phosphorus glass alloy for recordings)

L13 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2003 ACS on STM

AN 1984:521807 CAPLUS

DN 101:121807

TI **Magnetic recording** tapes

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC H01F010-16; C22C019-07; G11B005-66; G11B005-84

CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
PI JP 59061013	A2	19840407	JP 1982-170649	19820929
PRAI JP 1982-170649		19820929		

AB Stable recording tapes are fabricated from the deposition of a rhombic-type Co-(2-8) at.% Cr or Co-Ni-(2-8) at.% Cr alloy deposited on polyethylene terephthalate or a polyimide to a thickness of 500-5000 .ANG. and a d. .gtoreq.5.

ST recording tape cobalt nickel chromium

IT Polyamides, uses and miscellaneous

RL: USES (Uses)

(magnetic recording tapes from deposition of cobalt-chromium alloys on)

IT Recording apparatus

(magnetic, tapes, from rhombic cobalt-chromium alloys)

IT 12618-71-2 **91810-06-9** 91810-07-0

RL: PRP (Properties)

(magnetic recording tapes from deposited rhombic layers of)

IT 25038-59-9, uses and miscellaneous

RL: USES (Uses)

(magnetic recording tapes from deposition of cobalt-chromium alloys on)

L13 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1984:60604 CAPLUS
DN 100:60604
TI The magnetic and microstructural properties of cobalt-chromium thin films with perpendicular anisotropy
AU Grundy, P. J.; Ali, Mubarak
CS Dep. Pure Appl. Phys., Univ. Salford, Salford, M5 4WT, UK
SO Journal of Magnetism and Magnetic Materials (1983), 40(1-2), 154-62
CODEN: JMMMD; ISSN: 0304-8853
DT Journal
LA English
CC 77-1 (Magnetic Phenomena)
Section cross-reference(s): 56
AB The magnetic properties were measured of d.c. sputter deposited Co_{100-x}Cr_x alloy films for 0 < x < 30. Properties of interest are those obtained from the in-plane and perpendicular hysteresis loops such as magnetization, satn. fields and coercivities. These properties correlate with the microstructure, crystal structure and to some extent, the magnetic domain structure of the films. For particular prepn. conditions and within a certain compn. range, the films have some of the properties suitable for perpendicular **magnetic recording** applications, i.e., perpendicular magnetization and high coercivity.
ST magnetism microstructure cobalt chromium film; domain structure cobalt chromium film; recording cobalt chromium film
IT Magnetic anisotropy
 (of cobalt-chromium films, microstructure effect on)
IT Coercive force, magnetic
 Magnetic hysteresis
 Magnetic induction and Magnetization
 (of cobalt-chromium films, with perpendicular anisotropy, microstructure effects on)
IT Magnetic domain
 (structure of, in cobalt-chromium films with perpendicular anisotropy)
IT Recording materials
 (magnetic, chromium-cobalt alloys, with perpendicular anisotropy)
IT 75711-91-0
RL: PRP (Properties)
 (magnetic and microstructural properties of films of, with perpendicular anisotropy)

L13 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1984:16611 CAPLUS
DN 100:16611
TI **Magnetic recording** material
IN Nishikawa, Yasuo; Shirahata, Ryuji; Andou, Yuji
PA Fuji Photo Film Co., Ltd., Japan
SO Ger. Offen., 21 pp.
CODEN: GWXXBX
DT Patent
LA German
IC G11B005-68; G11B005-72; G11B005-84; H01F010-28; B05D005-12; C23C013-02
CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3314953	A1	19831027	DE 1983-3314953	19830425
PRAI	JP 1982-70127		19820426		

AB A recording tape with a long use time consists of a high mol.-wt. polymer support coated on the front side a ferromagnetic layer and on the backside with a compn. of inorg. oxide powder of av. size 0.02-0.5 .mu., antifriction agent, and a binder. Thus, a Co-20% Ni film was vapor deposited on a polyethyleneterephthalate strip and the back side of the strip was coated with myristic acid, CaCO₃ 0.2-.mu. powder, 1000 g (vinyl acetate-vinyl chloride polymer, Denki Kagaku Kogyo Co., Ltd.),

polyurethane, and Me Et ketone to give a recording tape.
 ST recording tape ferromagnetic inorg oxide; cobalt nickel recording tape; polyethyleneterephthalate recording tape; myristic acid recording tape; vinyl polymer recording tape; polyurethane recording tape
 IT Polymers, uses and miscellaneous
 RL: USES (Uses)
 (binders, for backsides of recording tapes)
 IT Oxides, uses and miscellaneous
 RL: USES (Uses)
 (on backsides of recording tapes)
 IT Binding materials
 (polymeric, for recording tape backsides)
 IT Recording apparatus
 (magnetic, tapes, inorg. oxides in polymer binders for backsides of)
 IT 78-93-3, uses and miscellaneous 471-34-1, uses and miscellaneous
 544-63-8, uses and miscellaneous
 RL: USES (Uses)
 (in magnetic recording tape fabrication)
 IT 9003-22-9 9004-70-0 39278-79-0 77907-80-3
 RL: PRP (Properties)
 (in magnetic recording tape fabrication)
 IT 25038-59-9, uses and miscellaneous
 RL: USES (Uses)
 (magnetic recording tape from)
 IT 11109-70-9
 RL: PRP (Properties)
 (magnetic recording tape from, with oxide coated
 back layer)
 IT 1305-78-8, uses and miscellaneous 1309-37-1, uses and miscellaneous
 1309-48-4, uses and miscellaneous 1314-13-2, uses and miscellaneous
 1317-33-5, uses and miscellaneous 1344-28-1, uses and miscellaneous
 7631-86-9, uses and miscellaneous 10043-11-5, uses and miscellaneous
 RL: USES (Uses)
 (magnetic recording tape with backside coated with)
 IT 12138-09-9 13463-67-7, uses and miscellaneous 18282-10-5
 RL: PRP (Properties)
 (magnetic recording tape with backside coated with)
 IT 70146-46-2
 RL: PRP (Properties)
 (magnetic recording tape with layer from)

L13 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1983:415342 CAPLUS
 DN 99:15342
 TI Magnetic recording medium
 PA Iwasaki, Shinichi, Japan
 SO Jpn. Tokkyo Koho, 7 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 IC G11B005-66; H01F010-00
 CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58000091	B4	19830105	JP 1977-118424	19770930
	JP 54051804	A2	19790424		
PRAI	JP 1977-118424		19770930		

AB The perpendicular magnetic recording medium for a
 single-pole magnetic head consists of a magnetic
 recording layer and a layer with low coercivity. The recording
 layer may contain a Co layer with 5.apprx.25 wt.% Cr. The coercivity
 layer has coercivity of 1/5 to that of the magnetic layer.
 ST chromium cobalt magnetic recording

IT Recording materials
(magnetic, cobalt-chromium alloy, with improved porosity)
IT Recording apparatus
(magnetic, heads, cobalt-chromium alloy in fabrication of)
IT 37356-87-9
RL: PRP (Properties)
(magnetic recording single-pole head from)

L13 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1983:118351 CAPLUS

DN 98:118351

TI **Magnetic-recording** medium

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC G11B005-84; H01F041-20

CC 77-8 (Magnetic Phenomena)

Section cross-reference(s): 75

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57141028	A2	19820901	JP 1981-25905	19810224
PRAI	JP 1981-25905		19810224		

AB The method is described for fabricating a durable and high-performance **magnetic-recording** medium having 2 magnetic thin films with an S-shaped warped and slanted pattern of crystal columns. The 1st film is prep'd. by oblique deposition of a magnetic-metal vapor (e.g., Co) on a substrate moving in 1 direction while continuously changing the deposition angles from high angles to low angles. The 2nd film is prep'd. by oblique deposition of the magnetic vapor on the substrate moving in the other direction while continuously changing the deposition angles from low angles to high angles.

ST metal oblique deposition **magnetic recording**; cobalt oblique deposition **magnetic recording**

IT Films

(deposition of metallic bilayers of, for recording tapes)

IT Metals, uses and miscellaneous

RL: USES (Uses)

(film deposition of ferromagnetic, for recording tapes)

IT Sputtering

(of metal bilayer films for **magnetic recording** tapes)

IT Recording apparatus

(magnetic, tapes, metal bilayer, sputter deposition of)

IT 25038-59-9, uses and miscellaneous

RL: USES (Uses)

(magnetic bilayer recording tape from sputter deposition on)

IT 7440-48-4, uses and miscellaneous

RL: USES (Uses)

(**magnetic recording** tape from deposition of double metal layer contg.)

IT 39397-97-2

RL: PRP (Properties)

(**magnetic recording** tape from deposition of double metal layer contg.)

L13 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1983:45701 CAPLUS

DN 98:45701

TI **Magnetic recording** tape

PA Nippon Gakki Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC H01F010-16; G11B005-66

CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57170505	A2	19821020	JP 1981-55381	19810413
	JP 04016926	B4	19920325		
PRAI	JP 1981-55381		19810413		
AB	The tape has a magnetic metallic layer with the compn. of Ni 0-30, Cr 1-20 wt.%, and balance Co on a substrate.				
ST	cobalt chromium nickel tape recording				
IT	Recording materials (magnetic, deposition of chromium-cobalt-nickel alloy films for, for tapes)				
IT	Recording apparatus (magnetic, tapes, deposition of chromium-cobalt-nickel alloy for)				
IT	84150-41-4 RL: PEP (Physical, engineering or chemical process); PROC (Process) (deposition of, for magnetic recording tapes)				
L13	ANSWER 21 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN				
AN	1982:628950 CAPLUS				
DN	97:228950				
TI	Magnetic recording material				
IN	Shirahata, Ryuji; Yanai, Akio; Kitamoto, Tatsuji				
PA	Fuji Photo Film Co., Ltd. , Japan				
SO	Ger. Offen., 16 pp. CODEN: GWXXBX				
DT	Patent				
LA	German				
IC	G11B005-64; G11B005-84; H01F010-16; C23C013-02				
CC	77-8 (Magnetic Phenomena)				
Section cross-reference(s): 74					
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3204851	A1	19820909	DE 1982-3204851	19820211
	JP 57134907	A2	19820820	JP 1981-19906	19810213
	JP 04062163	B4	19921005		
	US 4588636	A	19860513	US 1982-348611	19820212
PRAI	JP 1981-19906		19810213		
AB	A low-noise video recording tape is fabricated by vacuum evapg. or ion-plating a ferromagnetic thin film contg. Co .gt;req. 75 and Mg 0.05-3.0 wt.% on a nonmagnetic support. Thus a Co-(0-3.0 wt.%) Mg alloy was electron-beam deposited on a polyethyleneterephthalate tape to a thickness of 0.15 .mu. to give a tape with low noise.				
ST	recording tape video cobalt magnesium				
IT	Electron beam, chemical and physical effects (evapn. of cobalt based alloy, for recording tape fabrication)				
IT	Recording materials (magnesium-cobalt base alloy)				
IT	Polyamides, uses and miscellaneous				
	RL: USES (Uses) (magnetic recording tape from cobalt alloy layers deposited on)				
IT	Sputtering (of cobalt based alloy for recording tapes)				
IT	Recording apparatus (video, tapes, cobalt base alloy sputtering and evapn. in fabrication of)				
IT	25038-59-9, uses and miscellaneous				

RL: USES (Uses)
 (magnetic recording tape from cobalt alloy
 deposited on)
 IT 83765-58-6 83765-59-7 83765-60-0
 RL: PRP (Properties)
 (magnetic recording tape from deposition of)

L13 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1982:134715 CAPLUS
 DN 96:134715
 TI Magnetic recording tape
 PA Toshiba Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC G11B005-84; H01F041-20
 CC 77-8 (Magnetic Phenomena)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56165931	A2	19811219	JP 1980-67767	19800523
PRAI	JP 1980-67767				
AB	The ion-plating of Co-Cr magnetic recording is described. The evapn. source contg. 96% Co and 4% Cr produces a recording medium of 95% Co-5% Cr by using a acceleration voltage of 1 kV. The recording film had perpendicular coercivity of 1500 Oe and satn. magnetization of 300 Oe.				
ST	cobalt chromium magnetic recording tape				
IT	Recording materials (cobalt-chromium alloy, ion plating of)				
IT	Recording apparatus (magnetic, tapes, ion plating of chromium-cobalt alloys for)				
IT	39397-97-2				
IT	RL: PRP (Properties) (recording film from, ion plating in fabrication of)				

L13 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1981:596421 CAPLUS
 DN 95:196421
 TI Manufacture of magnetic recording medium
 PA Sekisui Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC G11B005-84; H01F041-20
 CC 77-1 (Magnetic Phenomena)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56071831	A2	19810615	JP 1979-147509	19791113
	JP 60019047	B4	19850514		
PRAI	JP 1979-147509		19791113		
AB	A magnetic recording medium was produced by ion beam evapn. of a ferromagnetic film by elec. discharge in an atm. of N or NH ₃ on a polyethyleneterephthalate substrate. Thus, a Co-Cr alloy film contg. 5% Cr .apprx.1000 .ANG. thick was deposited by corona discharge in N atm. at 4.2 kV and 100 mA current.				
ST	cobalt chromium magnetic recording film				
IT	Electric corona (deposition by, of cobalt-chromium alloys for magnetic recording medium)				
IT	Magnetic substances				

(ferro-, cobalt-chromium alloy, for recording medium by discharge deposition)

IT Recording apparatus
 (magnetic, discharge deposition of cobalt-chromium alloy for)

IT 39397-97-2
 RL: PRP (Properties)
 (magnetic recording medium from, discharge deposition of)

L13 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1981:453880 CAPLUS
 DN 95:53880
 TI **Magnetic recording** medium
 IN Shirahata, Ryuji; Kitamoto, Tatsuji; Yamada, Yasuyuki; Akashi, Goro
 PA Fuji Photo Film Co., Ltd., Japan
 SO U.S., 8 pp. Cont.-in-part of U.S. Ser. No. 736,914, abandoned.
 CODEN: USXXAM

DT Patent
 LA English
 IC H01F010-02
 NCL 204192000M
 CC 77-1 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4260466	A	19810407	US 1977-771583	19770224
PRAI	JP 1974-28844		19740313		
	US 1975-558104		19750313		
	US 1976-736914		19761029		

AB A method is described of forming a **magnetic recording** layer on a support, which consists of depositing simultaneously a ferromagnetic material, a polymer, and a lubricant, dispersant, or antistatic agent by using a vapor deposition technique such as vacuum deposition, sputtering or ion plating. Alternatively, a monomer or oligomer may be deposited with the ferromagnetic material, and the deposited layer polymed. by using a catalyst or ionizing radiation. For example, Co-Fe alloy (85:15 by wt.), poly-p-xylene, and polystyrene from sep. evapg. sources were simultaneously evapd. onto a polyethylene naphthalate tape 22 .mu. thick and 1/2 in. wide to produce a magnetic tape with coercive force 420 Oe and squareness ratio Br/Bm.

ST recording layer vapor deposition; metal polymer recording deposition; polymer metal recording deposition; cobalt alloy polymer recording; composite **magnetic recording** layer

IT Siloxanes and Silicones, uses and miscellaneous
 RL: USES (Uses)
 (magnetic recording layer from composite of cobalt and, electron-beam evapn. deposition of)

IT Polycarbonates
 RL: USES (Uses)
 (magnetic recording layer from composite of cobalt-iron-nickel alloy and, ion-plating deposition of)

IT Sputtering
 (of magnetic metal-polymer composite recording layer)

IT Gamma ray, chemical and physical effects
 (polymn. by, in magnetic metal-polymer composite recording tape manuf.)

IT Recording apparatus
 (magnetic, tapes, metal-polymer composite, vapor deposition in manuf. of)

IT 32131-17-2, uses and miscellaneous
 RL: USES (Uses)
 (magnetic recording layer from composite of cobalt alloys and, vacuum vaporization of)

IT 9002-84-0
 RL: PRP (Properties)

(magnetic recording layer from composite of cobalt and, sputtering of)
IT 25951-90-0
RL: PRP (Properties)
(magnetic recording layer from composite of cobalt-iron alloy and polystyrene and, vacuum evapn. of)
IT 9003-53-6
RL: PRP (Properties)
(magnetic recording layer from composite of cobalt-nickel alloy and poly-p-xylene and, vacuum evapn. of)
IT 7440-48-4, uses and miscellaneous
RL: USES (Uses)
(magnetic recording layer from composite of polymer and, vapor deposition of)
IT 11109-70-9 12755-52-1 39397-97-2 58833-14-0 78080-17-8
RL: PRP (Properties)
(magnetic recording layer from composite of polymer and, vapor deposition of)

L13 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1978:608090 CAPLUS
DN 89:208090
TI Cobalt-chromium recording films with perpendicular magnetic anisotropy
AU Iwasaki, Shunichi; Ouchi, Kazuhiro
CS Res. Inst. Electr. Commun., Tohoku Univ., Sendai, Japan
SO IEEE Transactions on Magnetics (1978), MAG-14(5), 849-51
CODEN: IEMGAQ; ISSN: 0018-9464
DT Journal
LA English
CC 77-1 (Magnetic Phenomena)
AB For a new perpendicular magnetic recording system, a Co-Cr recording film with perpendicular anisotropy was obtained by radio-frequency sputtering. The Co-Cr films show some suitable properties for high d. recording such as perpendicular anisotropy, a rectangular M-H loop, and fine grain structure. An extremely high recording d. of 100,000 bits/in. was realized by using the Co-Cr film. The crystal and microscopic structure of the films are also discussed; the perpendicular anisotropy of the Co-Cr films is mainly originated from the uniaxial magnetocryst. anisotropy.

ST chromium cobalt recording film; anisotropy chromium cobalt film
IT Magnetic anisotropy
(of chromium-cobalt alloy recording films)
IT Recording apparatus
(magnetic, chromium-cobalt alloy films, with perpendicular magnetic anisotropy)
IT 68295-29-4
RL: PRP (Properties)
(magnetic recording films, with perpendicular magnetic anisotropy)

L13 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:471443 CAPLUS
DN 85:71443
TI Improvements in or relating to magnetic recording media and to methods for their production
IN Clow, Hugh; Gilson, Raymond G.
PA EMI Ltd., UK
SO Brit., 3 pp.
CODEN: BRXXAA
DT Patent
LA English
IC G11B; C23C
CC 77-1 (Magnetic Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 1427731	A	19760310	GB 1972-12777	19730312
PRAI GB 1972-12777		19730312		
AB	An antistatic coating with low coeff. of friction consists of Cr 3-10%, Co alloy. Thus, magnetic recording tape requiring no antistatic agent or surface lubricant in the oxide layer was made from a plastic substrate coated with .gamma.-Fe ₂ O ₃ (12 .mu. thick) and a Cr 3-10%, Co alloy layer 0.1-0.2 .mu. thick.			
ST	recording cobalt chromium coating; antistatic coating recording media; antifriction coating recording media			
IT	Antifriction materials			
	Antistatic agents			
	(chromium-cobalt alloy, for magnetic recording tapes)			
IT	Recording			
	(magnetic tape for, cobalt-chromium alloy antifriction antistatic coating for)			
IT	60020-41-9			
	RL: PRP (Properties)			
	(antifriction antistatic coatings contg., for magnetic recording tapes)			

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(FILE 'HOME' ENTERED AT 14:20:43 ON 21 JUL 2003)

FILE 'REGISTRY' ENTERED AT 14:20:52 ON 21 JUL 2003
L1 361 S CO.CR/RC

FILE 'CAPLUS' ENTERED AT 14:21:23 ON 21 JUL 2003
L2 22050 S MAGNETIC (A) RECORDING
L3 1178 S L1
L4 456 S L3 AND L2

FILE 'REGISTRY' ENTERED AT 14:21:54 ON 21 JUL 2003
L5 0 S L4

FILE 'CAPLUS' ENTERED AT 14:22:21 ON 21 JUL 2003
L6 0 S 0-5CR/MAC
L7 0 S 0-5CR /MAC

FILE 'REGISTRY' ENTERED AT 14:29:38 ON 21 JUL 2003
L8 0 S 0-5CR/MAC
L9 117769 S 0-5 CR/MAC
L10 63275 S 1-5 CR/MAC
L11 133 S L1 AND L10

FILE 'CAPLUS' ENTERED AT 14:32:26 ON 21 JUL 2003
L12 169 S L11
L13 26 S L2 AND L11

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